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When do family firms consider issuing external equity?

Understanding the contingent role of families' need for control

Abstract

Prior research has argued that family firms are reluctant to consider external equity as a source of financing because they fear a loss of control, which would limit their socioemotional wealth. However, prior empirical research has neglected potential contingencies that determine whether family firms' need for control affects their equity financing decisions. The present paper provides first insight into this research void. Building on rational choice theory and a logit regression using secondary data, the authors show that the effect of family firm owners' need for control on their consideration of external equity depends on (a) the extent to which owners expect investors to interfere with management and (b) the extent to which decision making is affected by emotions. Hereby, the present study provides evidence that family firm owners' decisions to use external equity are more complex than previously presumed.

Introduction

As family firms are increasingly attracting investors' interest, numerous studies have sought the reasons for this trend. The explanations take two general forms. First, family firms offer a vast investment opportunity as they are the dominant form of economic enterprise (Chrisman, Chua, and Litz 2003; La Porta, Lopez-de-Silanes, and Schleifer 1999) and often do not have the necessary financial resources to survive or grow (Ward 1997). Second, research suggests that private equity investors see an opportunity to increase a family firm's value—and therefore their own investment—by cutting agency costs through stricter governance systems (Jensen 1993; Dawson 2011). The potential to increase value arises from family firm owners' pursuit of noneconomic objectives, such as creating jobs for family members (Chrisman, Chua, and Litz 2004; Corbetta and Salvato 2004; Sharma, Chrisman, and Chua 1997), which may lead to underperformance of those family firms (Gomez-Mejia et al. 2007; Berrone et al. 2012).

However, very often family firms do not reciprocate potential investors' interests. In particular, studies have repeatedly shown that family firms are less likely to use external equity as a source of financing than non-family firms (Blanco-Mazagatos, de Quevedo-Puente and Castrillo 2007; Croci, Doukas, and Gonenc 2011; Gallo, Tàpies, and Cappuynes 2004; Wu, Chua, and Chrisman 2007). In search for explanations, academics have frequently (explicitly or implicitly) resorted to the socioemotional wealth (SEW) model (for example, Poutziouris 2001; Romano, Tanewski, and Smyrnios 2001; Tappeiner, Howorth, Achleitner, and Schraml 2012). A key tenet of this model is that family firm owners exhibit a pronounced need for maintaining influence and control over their firms (for example, Berrone, Cruz, and Gomez-Mejia 2012). As a result, academics have argued that family firm owners refuse access to outside investors in order to avoid losing control (for example, Poutziouris 2001; Romano et al. 2001; Tappeiner et al. 2012) and therefore prefer debt over equity financing.

However, while the latter argument has been empirically verified by a growing stream of research (for example, Poutziouris 2001; Romano et al. 2001; Seet, Graves, Hadji, Schnackenberg, and Gustafson 2010; Tappeiner et al. 2012), extant research has merely recognized the link between a family firm owner's need for control and his or her reluctance to use external equity as an automatism. Put differently, to our best knowledge no prior study has investigated potential *contingencies* to the effect of owners' need for control on their consideration of external equity. We regard addressing this research void as important. Prior research (Koropp, Grichnik, & Kellermanns 2013) suggests that such contingencies do exist. Beginning to unveil them will advance our academic understanding and hereby help build more rigorous theories on family firms' equity financing decisions. Additionally, we are convinced that this topic is also important from a managerial perspective. Specifically, advancing the understanding of when family firm

owners consider using external equity may help investors focus on the most promising family firms and avoid wasting time and other resources.

These notions are the starting point of our study, which aims to provide first elementary insights into contingencies of family firm owners' need for control. Specifically, on the basis of rational choice theory (for example, Harsanyi 1977), we propose that family firms' consideration of external equity depends on the interplay of their need for control, their expectations regarding investors' interference in managerial decision making, and the degree to which decision making is based on emotions. We analyzed secondary data of 125 family firms using a series of logistic regression analyses. Results reveal that the interplay of family firms' need for control, expected investor involvement, and emotional decision making strongly affects family firms' consideration of external equity as a source of financing.

Our investigation makes several contributions to academic literature. First, we provide a deeper understanding of the effect of need for control on family firms' equity financing decisions. Specifically, we contrast prior research (for example, Poutziouris 2001; Romano et al. 2001; Tappeiner et al. 2012) by showing that need for control does not automatically reduce a family firm's consideration of external equity. Second, our study contributes to literature on socioemotional wealth (SEW) (for example, Berrone et al. 2012; Gomez-Mejia, Haynes, Núñez-Nickel, Jacobson, and Moyano-Fuentes 2007) as our results point to important contingencies. Third, our study contributes to literature on rational choice theory by being the first to test the predictive validity of this theory in the context of family firm financing.

Our results also hold implications for managerial practice. For example, to correctly assess their chances of success when approaching family firms for equity, investors need to understand the complex interplay between the firms' need for control, expectation of investor interference,

and decision making. Our study will help investors to better understand family firms' financial decision making and also help both family firm owners and third parties, such as banks, improve financial decision-making for family firms.

The rest of this paper unfolds as follows. We begin by reviewing the theoretical and empirical literature on financial decision making in family firms. Subsequently, we introduce rational choice theory and derive our hypotheses. We then explain our methodology, including our data, estimation approach, and results. Finally, we discuss how our results contribute to academic research and managerial practice.

Literature Review

In what follows, we discuss the literature on financial decision making with a particular focus on family firms. We start by elaborating on the *socioemotional wealth (SEW) model*. Very specifically we focus on family control and influence as a major element of the model and which has been argued is the main reason why family firms are particularly unlikely to use external equity as a source of financing. Additionally, we also review *empirical studies elucidating family firms' financing decisions*. Notably, external equity also offers *advantages* to family firms, which we describe at the end of this section.

Socioemotional Wealth (SEW) Model

There is broad consensus that family firms differ from non-family firms since they possess a non-economic, emotional endowment—socioemotional wealth (SEW)—which they strive to preserve (for example, Berrone, Cruz, Gomez-Mejia, and Larraza-Kintana 2010; Berrone et al. 2012; Cennamo, Berrone, Cruz, and Gomez-Mejia 2012; Blanco-Mazagatos et al. 2007; Gomez-Mejia, Cruz, Berrone, and De Castro 2011; Gomez-Mejia et al. 2007; Miller, Le Breton-Miller, and Lester 2012; Tappeiner et al. 2012; Zellweger et al. 2011). In fact, this endowment has been

argued to be “the most important differentiator of the family firm as a unique entity and, as such, helps explain why family firms behave distinctively” (Berrone et al. 2012, p. 258).

One key dimension of a family firm’s socioemotional wealth (SEW) is *family control and influence* (Berrone et al. 2012). To elaborate, family firm owners tend to have a strong need for control over strategic decision. As a result, they tend to take actions that help them maintain and avoid actions that threaten their control—even at the cost of reduced financial performance (Gomez-Mejia et al. 2007). This insight is crucial when it comes to family firms’ financing decisions. Specifically, if family firm owners issue external equity, new shareholders may become involved in decision making. For example, shareholders may have voting rights, seats on the board, special veto rights, information rights, performance-related options, or covenants (Tappeiner et al. 2012; Kaplan and Strömberg 2003). As a result, after issuing external equity a family firm owner may experience a loss of control and influence. Thus, seeing that preserving control and influence is a key objective, it has been argued that family firms are particularly unlikely to use external equity as a source of financing (Poutziouris 2001; Romano et al. 2001; Tappeiner et al. 2012).

Beyond family control and influence, SEW arises from four further sources, which we briefly discuss in the following for the sake of completeness (for a more comprehensive discussion, see Berrone et al. 2012). First, socioemotional wealth arises from family members’ *identification with the family firm*. One reason for this identification is that the family firm usually carries the family’s name. This leads to a strong internal identification, but also the strong need of family firm owners to internally and externally maintain a positive family image (Micelotta and Raynard 2011). Therefore, family firms tend to maintain pronounced quality and service standards (Carrigan and Buckley 2008; Teal, Upton, and Seaman 2003) and engage in corporate social responsibility (Berrone et al. 2010; Craig and Dibrell 2006; Dyer and Whetten 2006).

Second, *binding social ties* contribute to SEW, manifested in closed networks (Cruz, Justo, and De Castro 2012) and interpersonal solidarity (Uzzi 1997). These social ties extend to other family members, to employees (Miller and Le Breton-Miller 2005), and the community in general (Berrone et al. 2010). Resulting from these ties, family firms tend to engage above other firms in sponsorships or participate in associations (Schulze, Lubatkin, and Dino 2003).

Third, SEW arises from *emotional attachment in social relationships* (Eddleston and Kellermanns 2007; Tagiuri and Davis 1996), that is, interpersonal linkages, emotional bonds, and affectionate ties (Fletcher 2000). Emotions—either positive or negative ones (Epstein, Bishop, Ryan, Miller, and Keitner 1993)—result from and influence daily situations. Specifically, in comparison to non-family firms, family firms are more likely to resolve conflictive situations or dysfunctional relationships (Fletcher 2000).

Fourth, *transgenerational succession* determines SEW (Zellweger & Astrachan, 2008; Zellweger et al. 2011). Specifically, maintaining the business allows longer term planning horizons (Miller and Le Breton-Miller 2006; Miller, Le Breton-Miller, and Scholnick 2008; Sirmon and Hitt 2003).

While the elements of SEW described above are generally considered to be valuable endowments, studies have argued that they also lead family firm owners to make doubtful decisions. Specifically, when facing a threat to its socioemotional endowment, “the family would be willing to put the firm at risk if this is what it would take to preserve that endowment” (Berrone et al. 2012, p. 259). In a similar vein, studies have argued that their focus on preserving SEW may induce families to mistreat their firms’ stakeholders. For example, their strong need for control and influence might lead the family to appoint only family members to the board, which may violate rules of good governance (Kellermanns, Eddleston, and Zellweger 2012).

Empirical Studies Elucidating Family Firms' Financing Decisions

Empirical research on family firms' decisions to use external equity encompasses two areas of study (see Table 1). First, studies have compared family and non-family firms' financing structures, showing that family firms are more reluctant to use external equity (Blanco-Mazagatos et al. 2007; Croci et al. 2011; Gallo et al. 2004; Wu et al. 2007). These studies have typically employed secondary panel data on both family and non-family firms. To explain their findings, authors have frequently referred to family firm owners' pronounced need for control (for example, Blanco-Mazagatos et al. 2007; Croci et al. 2011; Gallo et al. 2004; López-Gracia, and Sánchez-Andújar 2007).

The second area of study analyzes drivers of family firms' equity financing, hereby focusing on cross-sectional data of family firms only. Findings show that family firms' use of external equity is affected by various factors (for example, Dawson 2011; Fernando, Schneible, and Suh 2014; Koropp et al. 2014; Mahéroult 2000; Seet et al. 2010), such as firm owners' need for control (Poutziouris 2001; Romano et al. 2001; Seet et al. 2010; Tappeiner et al. 2012). One reason for family firm owners' fear to lose control when issuing external equity is their belief that external investors' short-term perspective is in conflict with their own long-term vision (for example, Tappeiner et al. 2012).

However, as outlined previously, these studies have not investigated moderators of the effect of a family firm owner's need for control on his or her reluctance to use external equity, thus conceiving this effect as an automatism. However, such contingencies may exist and decisively determine to what extent a family firm owner's need for control impacts his or her consideration or use of external equity (Koropp et al. 2013).

--- Insert Table 1 about here ---

Advantages of External Equity

As discussed previously, family firm owners tend to regard external equity as unattractive since it potentially threatens their socioemotional wealth by reducing their influence and control (Tappeiner et al. 2012; Seet et al. 2010). However, even though it might be regarded as unattractive, studies have argued that external equity also offers potential benefits to family firms. Specifically, beyond constituting a *financial* resource, equity investors may provide *managerial* resources, for example in the form of support and expert advice (for example, Dreux 1990; Marti, Menéndez-Requejo, and Rottke 2013). Moreover, investors may increase the family firm's value by cutting agency costs through stricter governance systems (Dawson 2011; Jensen 1993), and by promoting strategic managerial innovation through changes in organizational structure and managerial practices (Markides 1998; Reid 1996). Lastly, external equity may help families align interests with outside management successors. More specifically, according to agency theory (Chua, Chrisman, and Sharma, 2003; Schulze et al. 2001), outside management successors (i.e., agents) may exhibit motivations that are in conflict with the family's goals. Giving outside management successors stakes in the family firm may alleviate such goal conflicts (Schulze, Lubatkin, and Dino 2003).

However, these potential benefits do not seem to offset family firm owners' presumed loss of control when issuing external equity (Tappeiner et al. 2012; Seet et al. 2010). Thus, given the strong arguments for the role of family firm owners' need for control when making financing decisions (Berrone et al. 2012), this too constitutes the focus of our study. Extending prior research, however, we are the first to examine contingencies of the effect of need for control on a family firm's consideration of external equity.

Theoretical Framework

Rational Choice Theory

As outlined previously, our research aim is to analyze how family firms' socioemotional needs for control (derived from the SEW model) affects their consideration of external equity as a source of financing, including contingencies of this effect. To deduce hypotheses from this question, we draw on *rational choice theory*, which we describe in the following.

Rational choice theory predicts which choices rational actors make when facing different opportunities. Hereby, choices are deemed as *rational* if actors make *goal-oriented* decisions based on an evaluative process rather than intuitive or random decisions based on emotions, for instance (for example, Harsanyi 1977; Loewenstein and Lerner 2003; Loewenstein, Weber, Hsee, and Welch 2001). To elaborate, when facing different opportunities, "the set of opportunities (available actions) is evaluated in the light of an actor's aims. That is, the actor forms preferences among alternatives" (Voss and Abraham 2000, p. 54). This process does not require actors to know the consequences of choosing these opportunities for certain. Instead, even if the outcome of their choice is probabilistic, rational actors form expectations about the fit of the opportunities with their aims, or, in other words, the *expected utility* of opportunities (Harsanyi 1977). Subsequently, "those actions are chosen which will have the best consequences in terms of the actor's own aims" (Voss and Abraham 2000, p. 54).

Notably, in contrast to its potential use in everyday language, a *rational* decision in terms of the theory does not necessarily have to be an *economic* decision. Instead, as mentioned previously, any decision is "rational" as long as it is made with respect to an actor's aims (for example, Coleman 1990; Harsanyi 1977; Voss and Abraham 2000). For example, a firm that chooses a financing option that is economically less beneficial than an alternative option may act

completely rational if the firm's aims—which may comprise non-financial, emotional aspects, such as a need to maintain control (Berrone et al. 2012)—are best satisfied by the chosen option.

Rational choice theory is ideally suited as the background of our study for at least two reasons. First, the theory exhibits a high fit with the focus of our study. More specifically, we aim to examine how a family's need for control (derived from the SEW model) is related to the family's consideration of external equity as a source of financing. Seeing that rational choice theory predicts how individuals' goals or needs translate to choices, it thus allows deducing hypotheses which are closely in line with our research question.

Second, rational choice theory is a dominant perspective in economics and has gained increasing influence in related academic fields, such as social sciences (Voss and Abraham 2000). Thus, the theory provides an established and recognized framework for understanding the decision process of individuals and institutions, such as their consideration of external equity as a source of financing. Furthermore, previous studies have successfully applied theories grounded in rational choice to understand family firms' financing decisions. For example, Koropp et al. (2014) deduced hypotheses from the theory of planned behavior (Ajzen 1991), which emerged from the rational choice postulate. We elaborate on the link between their and our study in our discussion.

Hypotheses

In what follows, we derive our research hypotheses on predictors of family firms' consideration of external equity as a source of financing. We base these hypotheses on rational choice theory as well as the SEW model, which we described in our literature review.

A family firm owner's socioemotional need for control (Berrone et al. 2012) is particularly important when it comes to the decision of whether to use external equity, because new shareholders may exert influence on managerial decisions (for example, via voting rights on

governance boards), which would effectively limit the degree to which a family exclusively controls its firm. How does this rationale impact a family firm owner's consideration to use external equity? While prior research has suggested that a family firm owner's need for control alone decreases its consideration of external equity (for example, Poutziouris 2001; Romano et al. 2001; Tappeiner et al. 2012), rational choice theory provides a more granular view. In particular, seeing that actors make choices which they expect to best satisfy their needs, family firms may weigh their need for control against their expectations of what extent external investors would limit this control by interfering with management. Specifically, a family that does *not* expect investors to strongly interfere with management should not perceive that its need for control is threatened if it uses external equity. As a result, the family's need for control should be relatively independent from its consideration to offer external equity. Conversely, a family that *does* expect investors to interfere with management should perceive external investors as a threat to its need for control. Resulting from this, rational choice theory predicts that the family should be less likely to offer external equity. Thus:

H₁: Expected investor interference negatively moderates the effect of need for control on consideration of external equity.

In what follows, we propose a contingency to the previous hypothesis. Specifically, we expect that even if a family firm does *not* expect investors to strongly interfere with management, need for control decreases the firm's consideration of external equity the more decision making is affected by emotions.

Our reasoning is based on literature arguing that emotions are a frequent source of *bounded rationality* (for example, Hanoch 2002; Kaufman 1999; Muramatsu and Hanoch 2005). Bounded rationality refers to decision-makers' tendencies not to follow the rational choice paradigm explained previously, but to base decisions on heuristics (Simon, 1982). For example, decision

makers use so-called *one-reason decision making*, whereby “[t]he inference, or decision, is based on a single, good reason” (Gigerenzer and Goldstein 1996, p. 662).

Building on the literature of emotions and bounded rationality, we hypothesize that family firm owners who tend to make decisions emotionally are less likely to systematically evaluate whether their goals (that is, maintaining control) and a course of action (such as issuing equity to external investors) are without contradiction (which may be the case if investors are unlikely to interfere with management). Instead, owners may be more likely to base their consideration of external equity on their socioemotional need for control alone (Gigerenzer and Goldstein 1996). In other words, even if expected investor interference is low, we expect to find a more negative relationship between need for control and consideration of external equity for family firms that base decisions on emotions, than for family firms that do not base their decisions on emotions. Therefore, we hypothesize:

H₂: If expected investor interference is low, a family firm owner’s need for control is more likely to decrease consideration of external equity the more decision making is affected by emotions.

Methodology

Data Basis

To test our hypotheses, we used secondary data from a database hosted by a large auditing firm (KPMG 2014). This database comprises data from 125 family firms of varying sizes and industries, which stems from objective records as well as telephone interviews with senior executives as key informants (for details refer to Table 2). Family firms, for the purpose of this study, were defined as firms in which multiple members of the same family are involved as major owners or managers, either contemporaneously or over time. The family firms spanned a range of ages. Some 61% were firms in second or third generation ownership, while 16% were under fourth generation ownership

and 11% owned by the first generation. Fifth and sixth generation-owned businesses made up 12% of survey respondents. The family business interviewees occupy a range of senior positions, such as CEO, COO, CFO or head of strategy. The fact that the interviewees hold senior and comparable positions positively influences the reliability of the responses. We included all of the available firms in our sample and extracted our focal variables from the database, which comprise consideration of external equity, need for control, expected investor interference, emotional decision making, as well as a set of controls that we describe further down below.

--- Insert Table 2 about here ---

Measures

Dependent Variable. *Consideration of external equity* serves as our dependent variable, measuring whether family firm owners considered offering equity in the near future. It is coded as a dummy variable.

Independent Variables. In line with our hypotheses our model includes three independent variables. First, family firms' *need for control* was operationalized as key informants' evaluation of the extent to which preservation of family control and independence were important goals of their firms. Second, *expected investor interference* was operationalized as the firms' expectation of whether investors would interfere greatly with management. Third, to capture to what extent a family firm tended to make decisions emotionally, we included the variable *emotional decision making*. It was operationalized as the extent to which key information perceived emotions and sentiments to affect decision-making processes. Seeing that these variables had been collected over the phone, to limit cognitive complexity they were measured on four-point Likert scales ("strongly disagree" to "strongly agree"), which is consistent with prior literature on family firms (for example, Zain and Kassim 2012). A limitation of this data basis is the use of single items instead

of latent multi-item constructs. However, since the variables pertain to rather concrete and singular objects, such as behaviors and behavioral intentions, the available measurement should not unduly influence our results (Bergkvist and Rossiter 2007). The Appendix provides an overview of the measurements of dependent and independent variables.

Control Variables. We included several control variables to factor out potentially intervening influences on a family firm's consideration of external equity. First, seeing that a family firm's size may impact its consideration of external equity, we controlled for a family firm's *revenue*, which is provided on an interval scale (US\$20-50mn, US\$50-200mn, US\$200mn-1bn, US\$1bn+). Second, seeing that younger firms may be more willing to accept external equity than older and thus more established firms, we controlled for the *generation* of the family which currently owns the business. Third, seeing that internationalization efforts may require family firms to consider alternative ways of financing, we controlled for *geographical reach*, a dummy variable indicating whether a firm operated internationally or in one country only. The following three control variables were included to account for a family firm's general openness for external equity. Specifically, fourth, we controlled for *CEO affiliation*, a dummy variable indicating whether the CEO of the business was a member of the family. Fifth, we controlled for *family shares*, which indicates what proportion of the company was owned by family members (100 percent, more than 50 percent, less than 50 percent). Sixth, we controlled for a family firm's *past equity offering*, a dummy variable indicating whether a family firm had ever offered equity in the business to external investors. Seventh, seeing that a family firm's willingness to consider external equity in the future may rise with an increasing pressure for financial resources, we controlled for *need for financing*, a dummy variable indicating whether a family firm at the time of the survey was seeking external financing for its projects. Eighth, to account for industry-specific differences

in family firms' financing decisions, we controlled for the family firm's *industry*. As Table 2 shows, while most industries are represented with a relatively small share in our sample (lower than 8 percent or, respectively, 10 observations), two industries are over-represented: consumer products (29.6 percent / 37 observations) and industrial manufacturing (26.4 percent / 33 observations). We therefore controlled for these two industries using dummy variables. Table 3 depicts descriptive statistics and correlations of all variables.

--- Insert Table 3 about here ---

Model Specification and Estimation

We specified separate models to test H_1 and H_2 , which we describe in the following. First, in H_1 , we suggested that expected investor interference moderates the impact of a family firm's need for control on its consideration of external equity. Methodologically, this impact would find expression in a two-way interaction effect of need for control and expected investor interference on consideration of external equity. Therefore, following common practice in moderation analyses (Aiken and West 1991), we specified a regression equation which regresses consideration of external equity on a function of need for control, expected investor interference, the two-way interaction between these variables, and all further independent and control variables (see justification for individual control variables above). This approach resulted in the following regression model:

$$\begin{aligned} &\text{Consideration of external equity} \\ &= f(a + b_1 * \text{need for control} \\ &\quad + b_2 * \text{expected investor interference} \\ &\quad + b_3 * \text{emotional decision making} \\ &\quad + b_4 * \text{need for control} * \text{expected investor interference} \\ &\quad + b_5 * \text{revenue} \\ &\quad + b_6 * \text{generation} \\ &\quad + b_7 * \text{geographical reach} \\ &\quad + b_8 * \text{CEO affiliation} \\ &\quad + b_7 * \text{family shares} \\ &\quad + b_8 * \text{past equity offering} \end{aligned}$$

+ b_9 *need for financing
+ b_{10} *consumer products industry
+ b_{11} *industrial manufacturing industry)

In H_2 , we suggest that the interactive effect of need for control and expected investor interference on consideration of external equity hinges on the variable emotional decision making. Methodologically, our hypothesis entails a positive three-way interaction effect of need for control, expected investor interference, and emotional decision making on consideration of external equity. Therefore, following common practice in moderation analyses (Aiken and West 1991), to test H_2 we added all required two-way and three-way interaction terms to the abovementioned regression equation. This resulted in the following regression model:

$$\begin{aligned} \text{Consideration of external equity} \\ = f(a + b_1*\text{need for control} \\ + b_2*\text{expected investor interference} \\ + b_3*\text{emotional decision making} \\ + b_4*\text{need for control*expected investor interference} \\ + b_5*\text{need for control*emotional decision making} \\ + b_6*\text{expected investor interference* emotional decision making} \\ + b_7*\text{need for control*expected investor interference*emotional decision making} \\ + b_8*\text{revenue} \\ + b_9*\text{generation} \\ + b_{10}*\text{geographical reach} \\ + b_{11}*\text{CEO affiliation} \\ + b_{12}*\text{family shares} \\ + b_{13}*\text{past equity offering} \\ + b_{14}*\text{need for financing} \\ + b_{15}*\text{consumer products industry} \\ + b_{16}*\text{industrial manufacturing industry}) \end{aligned}$$

Before the estimation, we z-transformed all independent variables to control for nonessential multicollinearity and facilitate interpretation (Hofmann and Gavin 1998). As consideration of external equity is dichotomous, we estimated the model as a logistic regression using SPSS 22. Specifically, we estimated six models, which are depicted in Table 4: Model 1 includes only the control variables; Model 2 adds the main effects of our independent variables; Model 3 adds the two-way interaction effect between need for control and expected investor interference, aiming to test H_1 . Models 4 and 5 include further two-way interaction effects between

our independent variables. Finally, to test H₂, Model 6 is the full model including all main and two-way interaction effects as well as the three-way interaction between need for control, expected investor interference, and emotional decision making.

--- Insert Table 4 about here ---

Results

Main Results. To test H₁, we focus on the interpretation of Model 3, which includes all main and controlled effects as well as the two-way interaction effect between need for control and expected investor interference. The model explains between 35.9 percent (R^2 according to Cox & Snell) and 49.7 percent (R^2 according to Nagelkerke) of the variance of our dependent variable consideration of external equity. These numbers compare well with other family firm studies using logistic regressions (for example, Blanco-Mazagatos et al. 2007; Blumentritt 2006; Westhead and Howorth 2006).

As mentioned previously, H₁ predicts a negative two-way interaction between need for control and expected investor interference. In line with this expectation, the respective regression coefficient is positive and significant ($b = -.803, p < .05$). Thus, H₁ is supported. To gain further insight into the nature of this relationship, we plotted the interaction effect (see Figure 1). This plot further supports our argumentation in H₁, showing that need for control only decreases consideration of external equity for firms that expect investors to interfere with management.

To test H₂, we focus on the interpretation of Model 6, which is the full model including all main effects as well as two-way and three-way interaction effects. The model explains between 39.8 percent (R^2 according to Cox & Snell) and 55.1 percent (R^2 according to Nagelkerke) of the variance of our dependent variable consideration of external equity. As mentioned previously, H₂ predicts a significant positive three-way interaction between need for control, expected investor

interference, and emotional decision making. In line with this expectation, the respective regression coefficient is positive and significant ($b = 1.024, p < .05$).

Interestingly, none of the two-way interactions between need for control, expected investor interference, and emotional decision making emerges as significant. This is not uncommon when estimating three-way interactions, because in these models “the two-way interactions ... now represent conditional interaction effects, evaluated when the third variable ... equals 0” (Aiken and West 1991, p. 50). That is, in our case, the two-way terms represent the conditional interaction effects for *average* need for control, expected investor interference, and emotional decision making. Thus, notably, when need for control, expected investor interference, or emotional decision making deviate from their mean values, two-way interactive effects may become significant. This renders interpreting three-way interactions difficult and researchers commonly do so by inspecting plots of dependent variables at varying levels of all interacting variables (Aiken and West 1991; Dawson and Richter 2006; Spriggs, Yu, Deeds, and Sorenson 2012). We closely follow this approach and thus provide an interaction plot which depicts consideration of external equity as a function of need for control and emotional decision making given low expected investor interference (see Figure 1). As the figure shows, the negative impact of need for control on consideration of external equity is more pronounced if emotional decision making is high (see slope of the solid line). This pattern of effects is fully in line with H₂, which therefore receives support.

--- Insert Figure 1 about here ---

Supplemental Analyses. We conducted three supplemental analyses to verify the validity and robustness of our results. First, to rule out that our results are unduly affected by multicollinearity, we inspected the variance inflation factors for Model 6 (see column “VIF” in

Table 4). The highest variance inflation factor in this model has a value of 1.802, which substantially falls below the thresholds of 10, recommended in econometrics literature (Kennedy, 2008). Therefore, multicollinearity is unlikely to be an issue in our study.

Second, worth noting is that our sample comprises family firms that are rather large (in terms of revenue) and old (in terms of generation) (see Table 2). This raises the question of how applicable our findings are to smaller and younger family firms. To test the robustness of our model in this respect, we conducted median splits on the variables revenue and generation to estimate our model for family firms that are rather small (Model 7: N=76 family firms with a revenue of up to US\$ 200 million) and young (Model 8: N=85 family firms that are owned by up to the third generation). Both models are largely in line with our previous findings including a positive three-way interaction effect between need for control, expected investor interference, and emotional decision making (Model 8: $b = 1.313$, $p < .10$; Model 9: $b = 1.607$, $p < .05$). This provides some evidence that our results are not unduly influenced by the sample composition and may thus be applicable to family firms of different size and age.

Third, in our main models we did not control for the dimensions of the SEW beyond family control and influence, although these may potentially also affect family firms' consideration of external equity. Therefore, we extracted proxies for three of these dimensions from the database and controlled for them in Model 9. Specifically, to proxy *identification with the family firm*, we used the item "Family members have a strong sense of belonging to the family business" ($M = 3.41$, $SD = .56$), to proxy *binding social ties*, we used the item "Protecting the welfare of family members is an important aspect of how the business is run" ($M = 3.21$, $SD = .65$), and to proxy *transgenerational succession*, we used the item "Continuing the family legacy and tradition is an

important goal for the business” ($M = 3.70$, $SD = .48$). Including these variables in the model did not alter our results, which further substantiates the robustness of our findings.

Discussion

Research Issues

Our study contributes to academic literature in several ways. First, we provide a deeper understanding of the effect of need for control on family firms’ equity financing decisions. Specifically, we contrast prior research (for example, Poutziouris 2001; Romano et al. 2001; Tappeiner et al. 2012) by showing that need for control does not automatically reduce a family firm’s consideration of external equity. Instead, how need for control affects a family firm’s consideration of external equity depends on the interplay of need for control, expected investor interference, and emotional decision making. This finding is novel and thus substantially extends prior literature. Furthermore, it suggests that the relationship between need for control and equity financing is more complex than assumed by prior research. Future research should therefore more frequently factor in contingencies when examining drivers of family firms’ financing decisions (for example, Koropp et al. 2013).

Second, our study also contributes to literature on SEW. The SEW model posits that family firms’ decision making is centered on the idea of preserving SEW. In the event of a threat to SEW, family firm owners are willing to make decisions that are not driven by an economic logic, and are even willing to put the firm at risk to preserve SEW (Berrone et al. 2012; Gomez-Mejia et al. 2007). A key dimension of SEW is family control and influence (for example, Berrone et al. 2012; Zellweger et al. 2011), and prior literature has found that family firm owners are willing to perpetuate their control and influence over the firm’s affairs regardless of financial considerations (Gomez-Mejia et al. 2007). We add some insight to this stream of literature by qualifying family

firm owners' socioemotional need for control as a *necessary* but not *sufficient* prerequisite for financial decision making. Specifically, the influence of family firm owners' need for control on their consideration of external equity can only be understood in interaction with expected investor interference and the degree to which decision making tends to be emotional.

Third, our study provides a contribution to rational choice theory (for example, Harsanyi 1977; Loewenstein and Lerner 2003; Loewenstein et al. 2001; Voss and Abraham 2000). To our best knowledge our study is one of very few to apply rational choice theory to analyse the effect of need for control on family firms' equity financing decisions. We find that in this context rational choice theory has high predictive validity, thus contributing to academia in three ways. First, our study employs rational choice theory in a novel, presently untested context, thereby extending the applicability of the theory. Second, our use of rational choice theory in this context grants a new understanding of family firm owners' consideration of external equity. We therefore suggest that future research on family firms' financing decisions should more regularly adopt a rational choice theory perspective. Third, we support prior propositions that emotions are a source of bounded rationality (for example, Hanoch 2002; Kaufman 1999; Muramatsu and Hanoch 2005). Specifically, we find evidence that emotionally acting family firms heuristically reject external equity based on their need for control alone (Gigerenzer and Goldstein 1996) - even if they do not expect investors to interfere with management.

Beyond these three main contributions, the following two observations may also add to our understanding of family firm behavior. First, our results may also be interpreted through the lens of the theory of planned behavior (Ajzen 1991). The theory of planned behavior states that individuals' behaviors are driven by corresponding behavioral intentions. These behavioral intentions stem from three sources: (1) *attitudes*, that is, "evaluations of the likely consequences

or attributes of a behavior” (Koropp et al. 2014, p. 3); (2) *norms*, that is, others’ expectations of whether or not to carry out a behavior; (3) *behavior control*, that is, the degree to which carrying out a behavior is easy or difficult (Ajzen 1991). Koropp and colleagues (2014) showed that the theory of planned behavior applies to family firms’ decisions to offer external equity. Thus, one key predictor of a family firm’s offering of external equity is the *attitude toward external equity*, that is, to which family firm owners regard the use of external equity as “a good idea,” “useful,” “beneficial,” and “wise” (Koropp et al. 2014, p. 16). Extending this research, our study may grant insight into the question of *why* family firms do or do not develop such a positive attitude toward external equity. More specifically, the interplay of need for control, expected investor interference, and emotional decision making revealed by our study may, in a first step, form a family’s attitude toward external equity and only subsequently lead to behavioral intentions and behavior. In other words, we suggest that attitude toward external equity *mediates* the effect of the interplay of need for control, expected investor interference, and emotional decision making on a family firm’s consideration of external equity (Baron and Kenny 1986; Shrout and Bolger 2002). Thus, our results may be seamlessly integrated with the findings by Koropp and colleagues (2014) as they focus on different parts of the same underlying conceptual model of a family firm owner’s decision to offer external equity.

Second, it is worth noting that in our study external equity refers to equity financing through any type of non-family investor. In line with prior studies we do not distinguish between different investor types (for example, Koropp et al. 2014; Romano et al. 2001). In the following, we set out to interpret our results for different investor types (overview in Table 5).

Investors can be differentiated across a range of factors, such as when they typically invest (early vs. late stage), how much they invest (minority stakes vs. majority stakes), how the

investment is organized (public vs. private), and the degree of professionalism (private individuals vs. institutional). As to the latter differentiation, prior research suggests that institutional investors are typically constrained by fiduciary responsibilities while individual investors have a higher freedom to pursue non-monetary objectives (Villanueva and Sapienza 2009). Therefore, family firms are likely to expect high interference in decision making from institutional investors. For example, institutional investors like venture capitalists will invest in family-run firms only to the extent the firms focus on maximizing growth in value (Slator 2002). Thus, we expect family firm owners' consideration of external equity from institutional investors to follow the dotted line in the left-hand plot in Figure 1.

In contrast to institutional investors, individual investors typically invest smaller amounts and are typically constrained by fiduciary responsibilities to a lesser extent. Thus, their involvement in a family firms' decision making may not be compulsory, but it may vary depending on their motives. These motives may include noneconomic aspects, such as being involved in new ventures, having fun, and achieving the personal satisfaction of mentoring a new entrepreneur (Wetzel 1983). For example, if investors' motives center on having fun, family firm owners may perceive investors' interference in management as not particularly pronounced or persistent. As a result, we would expect consideration of external equity to follow the pattern of the right-hand plot of Figure 1. Conversely, if investors' motives center around achieving personal satisfaction through mentoring, family firm owners may expect stronger interference in decision making. As a result, consideration of equity may follow the dotted line in the left-hand plot of Figure 1. Table 5 summarizes these notions.

--- Insert Table 5 about here ---

Managerial Implications

Our results hold implications for managerial practice of investors, family firms, and third parties. First, to correctly assess their chances of success when approaching family firms for equity, investors need to understand the complex interplay between family firms' need for control, expected investor interference, and emotional decision making. Beyond revealing investors' chances of success, our results provide guidance for investors on how to negotiate with family firm owners about their entry. For example, if family firm owners have a high need for control and are rational decision makers, aspiring investors need to focus on maintaining owners' sense of influence and control. Therefore, we recommend that investors first analyze how important different aspects of control are to owners and to themselves—such as voting rights, seats on the board, special veto rights, information rights, performance-related options, or covenants (Tappeiner et al. 2012; Kaplan and Strömberg 2003). Based on this analysis, investors may engage in multiple-issue negotiations with owners, aiming for win-win solutions by compromising on those aspects of control that are important to owners but less important to themselves (for example, Malhotra and Bazerman 2007). Furthermore, investors may focus on the managerial benefits they bring into the firm, such as their mediating competence in resolving conflict between family members (Tappeiner et al. 2012).

For family firm owners, our findings suggest that achieving a better understanding of their underlying motivations for seeking external funding might be a worthwhile investment of time. Specifically, owners should develop a clear picture about (1) which aspects of control are important to them, (2) to what extent external investors may pose a threat to these aspects of control, and (3) which managerial benefits external investors may bring to the firm. Only if owners understand these aspects can they make goal-oriented—that is, rational—decisions on whether to

issue external equity, which investor profile to look for, and based on what criteria to evaluate investors' track records.

Finally, our findings suggest that third parties like banks, which help family firms identify and connect with potential financial investors, should undertake an active search for information on the criteria outlined above. As our results show, expected investor interference and the degree to which decisions tend to be emotional ultimately influence whether family firm owners consider offering external equity in their firms. Therefore, information on these variables is key to understanding family firms' financing needs and advising them appropriately, for example by connecting them with potential investors or guiding them in deciding on the desirable equity-to-debt ratio.

Limitations and Suggestions for Future Research

Our study has several limitations that provide fruitful avenues for further research. A first limitation to be acknowledged is that we focus on a family firm's decision of using equity financing and we do not explore the wider question of comparing equity to debt financing. An interesting avenue for future research may be to build models with dependent variables relating to both equity and debt as a source of financing.

A second limitation to be acknowledged is that we conceptualized a partial model with a dedicated focus on need for control as a key dimension of SEW (Berrone et al. 2012). However, a reasonable assumption is that a family firm's consideration of external equity is driven by a multitude of other factors. For example, family firm owners may perceive external investors to have shorter investment time horizons which do not fit to their own long-term strategy, or they may consciously weigh benefits and costs associated with external equity (for example, Tappeiner et al. 2012). As such effects were beyond the scope of our paper, we encourage future research to

develop more comprehensive conceptualizations of predictors of family firm owners' consideration of external equity.

Third, following Koropp et al. (2014) we did not conceptualize differences between different types of investors (such as high net worth individuals, private equity firms, venture capital firms) in our model, but examined a family firm owner's perception of external investors in general. Future research may deduce dedicated hypotheses on family firm owners' consideration of external equity from different types of investors. Our discussion summarized in Table 5 may constitute a starting point for such conceptualizations.

Forth, our model did not differentiate between different types of expected investor interference. Instead, we examined family firm owners' expectations regarding the extent to which investors would interfere in management in general. This simplification constitutes a limitation because investor interference may assume many forms, such as voting rights, seats on the board, special veto rights, information rights, performance-related options, or covenants (Tappeiner et al. 2012; Kaplan and Strömberg 2003). Future research may conceptualize the effect of family firm owners' expectations regarding each of these forms of investor interference. Such models would seem adequate to provide a more complete picture of the inhibitors of family firms' consideration of external equity.

Fifth, the data used for our study was collected from a non-representative convenience sample of family firms, which comprises rather large and old businesses. However, our robustness checks (Models 8 and 9 in Table 4) provide some evidence that our results may not be unduly influenced by the size and age of the family firms in our sample.

Sixth, in striving for high generalizability our study examined a cross-cultural sample of family firms. Future research might carve out country and/or intercultural differences of financial

decision making in family firms. To illustrate, quite possibly in family firms in cultures that score high in uncertainty avoidance (Hofstede 2001) the need for control may have an even more pronounced effect on firms' consideration of external equity. Another important difference that might be worth looking at is whether the fact that the family firm is located in a bank-based or market-based economy might influence a family firm's financial decisions. Studies that focused on capital structure decisions of family firms in a bank-based economy showed that the level of leverage is the lowest if the founding family is both a large shareholder and present in the management board at the same time, which is similar to studies in market-based economies (Ampenberger, Schmid, Achleitner, and Kaserer 2013). Whether the location of a family firm in a bank-based or market-based economy would affect its use of external equity remains to be seen.

Seventh, interestingly, while in our sample 47.2% of family firms had offered equity in the past, only 32.8% considered external equity in the future. This discrepancy provides an interesting avenue for future research. Specifically, studies may adopt a dynamic perspective on family firm financing and examine which experiences cause family firms to reconsider or, alternatively, develop reluctance towards future equity financing.

Eighth, our sample comprised both family firms that were currently seeking external financing (58.4%) and firms that were not (41.6%). This is because we were interested in family firms' general willingness to consider external equity in the future rather than in specific financing decisions. Subsequent studies could replicate our results while zooming in on such specific financing decisions and thus track firms' actual decision for or against external equity. Due to the limited sample size of the database we acquired, however, future research may need to access or collect different data for such models.

Conclusion

Despite investors' strong interest in family firms, many family firm owners are reluctant to offer equity in the capital markets. Prior studies have uncovered important reasons for this reluctance. Our study contributes to this growing body of literature by focusing on the complex interplay of key predictors determining family firm owners' consideration of external equity. Specifically, we find that a full understanding of family firms' consideration of external equity does not emerge from examining direct effects or even two-way interactions. Rather, this consideration is largely driven by a three-way interaction derived from rational choice theory. To further advance understanding of family firms' financing decisions, future studies should more frequently consider the complex relationships determining family firms' financing decisions.

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Table 1
Research on Family Firms' Use of External Equity

Reference	Key Findings	Theoretical Background	Methodology	Moderators Included
Literature that compares equity financing of family and non-family firms				
Blanco-Mazagatos, de Quevedo-Puente, & Castrillo, 2007	When outside funds are necessary, family firms avoid issuing new equity and are instead more dependent on debt than nonfamily firms. This is particularly the case for younger as opposed to older family firms. The authors attribute this to family firm owners' desire to maintain control.	Agency theory, resources-based view	Regression analysis based on secondary data of family and non-family firms (N=654)	No
Croci, Doukas, & Gonenc, 2011	Family firms have a preference for debt financing and a non-control-diluting security. Furthermore they are more hesitant than non-family firms to raise capital through equity offerings. The authors attribute this to family firm owners' fear of control loss.	No overarching theory	Regression analysis based on secondary data of family and non-family firms (N=777)	Yes
Gallo, Tàpies, & Cappuyne, 2004	Family firms have smaller share capital and fewer shareholders than non-family firms. The authors argue that these differences are driven by personal preferences concerning growth, risk, and ownership-control.	No overarching theory	Sample comparisons based on survey of family and non-family firms (N=305)	No
López-Gracia & Sánchez-Andújar, 2007	Family firms have a different financial structure than non-family firms. For example, they approach their level of optimal debt more quickly. The authors suggest that their findings are driven by family firm owners' objective not to lose control of the business.	Trade-off theory, pecking order theory	Regression analysis based on secondary data of family and non-family firms (N=858)	No
Wu, Chua, & Chrisman, 2007	Family involvement decreases the use of equity financing and the use of public equity financing. The authors propose that these results point to a trade-off between family control and the pursuit of growth opportunities.	Agency theory	Regression analysis based on secondary data of family and non-family firms (N=2116)	No
Literature that analyzes drivers of family firms' equity financing				
Dawson, 2011	When investing in family firms, PE professionals take into account family-specific criteria, including human resources and opportunities to reduce agency costs. Moreover, they prefer professionalized family firms.	Resource based view, agency theory	Regression analysis based on survey of PE employees (N=1312)	No
Fernando, Schneible, & Suh, 2014	Institutional investors avoid investments in family firms. They however increased their ownership in family firms after Sarbanes-Oxley Act. (SOX).	Institutional theory, socioemotional wealth approach	Regression analysis based on secondary data of family firms (N=2655)	Yes
Koropp, Kellermanns, Grichnik, & Stanley, 2014	Family norms, attitude toward external equity, and perceived behavioral control affect behavioral intention to use external equity.	Theory of planned behavior	Structural equation model based on survey of family firms (N=118)	No
Mahérault, 2000	Listed and private family firms approach financing and investment differently. Listed firms separate between investment and financing decisions. Private firms follow the pecking order theory, which confirms that financial investors do not offer the required sources to finance growth.	Pecking order theory	Regression analysis based on secondary data of family firms (N=95)	No

Table 1 (Continued)
Research on Family Firms' Use of External Equity

Reference	Key Finding	Theoretical Background	Methodology	Moderators Included
Poutziouris, 2001	Family firms closely follow the pecking order principles of financial development, according to which external equity is the least preferred source of financing. This is particularly due to the suspected dilution/loss of control and loss of management freedom of action.	Pecking order theory	Univariate statistical analyses based on survey of family firms (N=240)	No
Romano, Tanewski, & Smyrnios, 2001	Owners who have a preference for retaining family control are less likely to consider equity. The same is true for older family firms. Conversely, equity is a consideration for owners of large businesses, young firms and owners who plan to achieve growth through increasing profit margins.	No overarching theory	Structural equation model based on survey of family firms (N=1490)	No
Seet, Graves, Hadji, Schnackenberg, & Gustafson, 2010	There are three gaps between small-to-medium-sized family-owned enterprises and the private equity community, that is a finance gap, a knowledge gap and an empathy gap. Among others, the empathy gap is fueled by family owners' strong need for control.	No overarching theory	Face-to face interviews with small-to-medium-sized family-owned enterprises, PE firms, and family firm professional advisors (N=32)	No
Tappeiner, Howorth, Achleitner, & Schraml, 2012	Family firm owners' demand for private equity is driven by their evaluation of financial and non-financial resources of private equity balanced with the need to cede control rights. Owners' fear to lose control is partly driven by concerns about the general short-term perspective of private equity investors in contrast to their long-term view.	Pecking order theory	Case study analysis of large family firms (N=21)	No
Our study	For family firms that tend to make rational rather than emotional decisions, need for control only decreases consideration of external equity if family firms expect investors to interfere in management. For family firms that tend to make emotional rather than rational decisions, need for control decrease consideration of external equity if family firms expect investors <i>not</i> to interfere in management.	Rational choice theory	Regression analysis based on survey of family firms (N=125)	Yes (three-way)

Table 2
Overview of Surveyed Family Firms (N=125)

Characteristic	Frequency ¹	Characteristic	Frequency ¹
Consideration of external equity (that is, our dependent variable)		Industry	
Yes	32.8%	Consumer Products	29.6%
No	67.2%	Industrial Manufacturing	26.4%
Revenue		Conglomerate	7.2%
US\$ 20-50 million	31.2%	Construction	5.6%
US\$ 50-200 million	32.8%	Leisure	5.6%
US\$ 200 million-1 billion	36.0%	Real Estate	4.8%
Family generation owning the firm		Retail	3.2%
1st generation	11.4%	Agriculture	2.4%
2nd generation	30.9%	Automotive	2.4%
3rd generation	29.3%	Financial Services	2.4%
4th generation	16.3%	Transportation	2.4%
5th generation	5.7%	Business Services	1.6%
Higher than 5th generation	6.5%	Healthcare	1.6%
Geographical reach		Media	1.6%
Single country	54.0%	Energy	.8%
Mult. countries in a single region	7.3%	Internet/ecommerce	.8%
Mult. countries in mult. regions	38.7%	Medical Devices	.8%
CEO affiliation		Telecommunications	.8%
Family	70.7%	Nationality	
Non-family	29.3%	USA	11.2%
Family shares		Australia	10.4%
100%	42.6%	Germany	9.6%
More than 50%	33.6%	France	8.8%
Less than 50%	23.8%	India	8.0%
Past equity offering		Canada	8.0%
Yes	47.2%	UK	7.2%
No	52.8%	Brazil	4.0%
Need for financing		Italy	4.0%
Yes	58.4%	Japan	4.0%
No	41.6%	South Africa	4.0%
		Spain	4.0%
		Others	16.8%

¹ Indicates valid percentages after excluding missing values. The number of missing values ranges between 0 and 3 for the variables used in this study.

Table 3
Descriptive Statistics and Correlations

Variables	M	SD	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10		
V1: Consideration of external equity	.33 ^a	.47 ^a												
V2: Need for control	3.34	.492	-.241**											
V3: Expected investor interference	2.83	.727	-.026	.010										
V4: Emotional decision making	2.44	.987	.103	-.033	.284**									
V5: Revenue	2.05	.822	.396**	-.128	-.135	-.116								
V6: Generation	3.20	2.27	-.231*	.184*	-.139	.051	-.198*							
V7: Geographical reach	.46 ^a	.50 ^a	.108	.018	-.085	-.185*	.241**	.002						
V8: CEO affiliation	.71 ^a	.46 ^a	-.265**	.114	-.102	.027	-.447**	.173	.055					
V9: Family shares	1.81	.80	.322**	-.288**	.085	.042	.439**	-.170	.230*	-.335**				
V10: Past equity offering	.47 ^a	.50 ^a	.432**	-.296**	.042	.131	.336**	-.156	.173	-.191*	.534**			
V11: Need for financing	.58 ^a	.49 ^a	-.102	.043	.006	.081	-.307**	.105	-.102	.159	-.051	.050		
V12: Consumer products industry	.30 ^a	.46 ^a	-,117	-,019	-,092	-,094	-,167	,192*	,035	,149	-,181*	-,227*	-,128	
V13: Industrial manufacturing industry	.26 ^a	.44 ^a	-,109	,031	-,037	,009	-,013	-,070	,085	-,038	,040	,015	,064	-,388**

* $p < .05$, ** $p < .01$; M = mean, SD = standard deviation, ^a dummy variable

Table 4
Results

Independent variables	Dependent variable: Consideration of external equity									
	Model 1: Controls only	Model 2: Main effects only	Model 3: Interaction effect 1: Test of H ₁	Model 4: Interaction effect 2	Model 5: Interaction effect 3	Model 6: All effects: Test of H ₂	VIF ^a	Model 7: Low revenue ^b	Model 8: Low generation ^c	Model 9: Additional SEW controls
Main effects										
Need for control	—	-.235 ^{n.s.}	-.379 ^{n.s.}	-.322 ^{n.s.}	-.222 ^{n.s.}	-.535 ^{n.s.}	1.250	-.779 ^{n.s.}	-.685 ^{n.s.}	-.520 ^{n.s.}
Expected investor interference	—	-.287 ^{n.s.}	-.368 ^{n.s.}	-.279 ^{n.s.}	-.291 ^{n.s.}	-.056 ^{n.s.}	1.307	-.098 ^{n.s.}	-.235 ^{n.s.}	-.016 ^{n.s.}
Emotional decision making	—	.397 ^{n.s.}	.350 ^{n.s.}	.271 ^{n.s.}	.410 ^{n.s.}	.617*	1.231	.883 ^{n.s.}	.980*	.568 ^{n.s.}
Two-way interactions										
Need for control × expected investor interference	—	—	-.803**	—	—	-.442 ^{n.s.}	1.442	-.070 ^{n.s.}	-.681 ^{n.s.}	-.397 ^{n.s.}
Need for control × emotional decision making	—	—	—	-.413 ^{n.s.}	—	.192 ^{n.s.}	1.311	-.407 ^{n.s.}	.280 ^{n.s.}	.109 ^{n.s.}
Expected investor interference × emotional decision making	—	—	—	—	.187 ^{n.s.}	.270 ^{n.s.}	1.254	.322 ^{n.s.}	.254 ^{n.s.}	.178 ^{n.s.}
Three-way interaction										
Need for control × expected investor interference × emotional decision making	—	—	—	—	—	1.024**	1.413	1.313*	1.607**	1.031**
Controls										
Revenue	.568*	.520 ^{n.s.}	.532 ^{n.s.}	.572*	.522 ^{n.s.}	.630*	1.802	2.394*	1.272**	.809**
Generation	-.708 ^{n.s.}	-.802 ^{n.s.}	.741 ^{n.s.}	-.750 ^{n.s.}	-.837*	-.878**	1.415	-1.106*	.963 ^{n.s.}	-.863**
Geographical reach	-.084 ^{n.s.}	.170 ^{n.s.}	-.073 ^{n.s.}	.159 ^{n.s.}	.164 ^{n.s.}	-.037 ^{n.s.}	1.302	-.173 ^{n.s.}	-.666 ^{n.s.}	-.159 ^{n.s.}
CEO affiliation	-.148 ^{n.s.}	-.215 ^{n.s.}	-.197 ^{n.s.}	-.162 ^{n.s.}	-.213 ^{n.s.}	-.158 ^{n.s.}	1.420	.562 ^{n.s.}	-.144 ^{n.s.}	-.148 ^{n.s.}
Family shares	-.035 ^{n.s.}	-.071 ^{n.s.}	-.191 ^{n.s.}	-.037 ^{n.s.}	-.056 ^{n.s.}	-.362 ^{n.s.}	1.727	-.409 ^{n.s.}	-.732 ^{n.s.}	-.334 ^{n.s.}
Past equity offering	.902***	.811***	.962***	.804***	.819***	1.138***	1.622	1.942**	1.259**	1.330***
Need for financing	-.063 ^{n.s.}	-.089 ^{n.s.}	-.220 ^{n.s.}	-.049 ^{n.s.}	-.098 ^{n.s.}	-.211 ^{n.s.}	1.299	-1.060 ^{n.s.}	-.188 ^{n.s.}	-.182 ^{n.s.}
Consumer products industry	-.180 ^{n.s.}	-.179 ^{n.s.}	-.252 ^{n.s.}	-.109 ^{n.s.}	-.187 ^{n.s.}	-.161 ^{n.s.}	1.476	.650 ^{n.s.}	-.279 ^{n.s.}	-.092 ^{n.s.}
Industrial manufacturing industry	-.340 ^{n.s.}	-.397 ^{n.s.}	-.657**	-.379 ^{n.s.}	-.428 ^{n.s.}	-.550 ^{n.s.}	1.393	.497 ^{n.s.}	-.902**	-.504 ^{n.s.}
Identification with the firm	—	—	—	—	—	—	—	—	—	-.127 ^{n.s.}
Binding social ties	—	—	—	—	—	—	—	—	—	.572*
Transgenerational succession	—	—	—	—	—	—	—	—	—	.187 ^{n.s.}
Model fit										
R ² (Cox & Snell)	.301	.324	.359	.333	.327	.398	—	.380	.424	.421
R ² (Nagelkerke)	.417	.448	.497	.461	.453	.551	—	.592	.573	.583

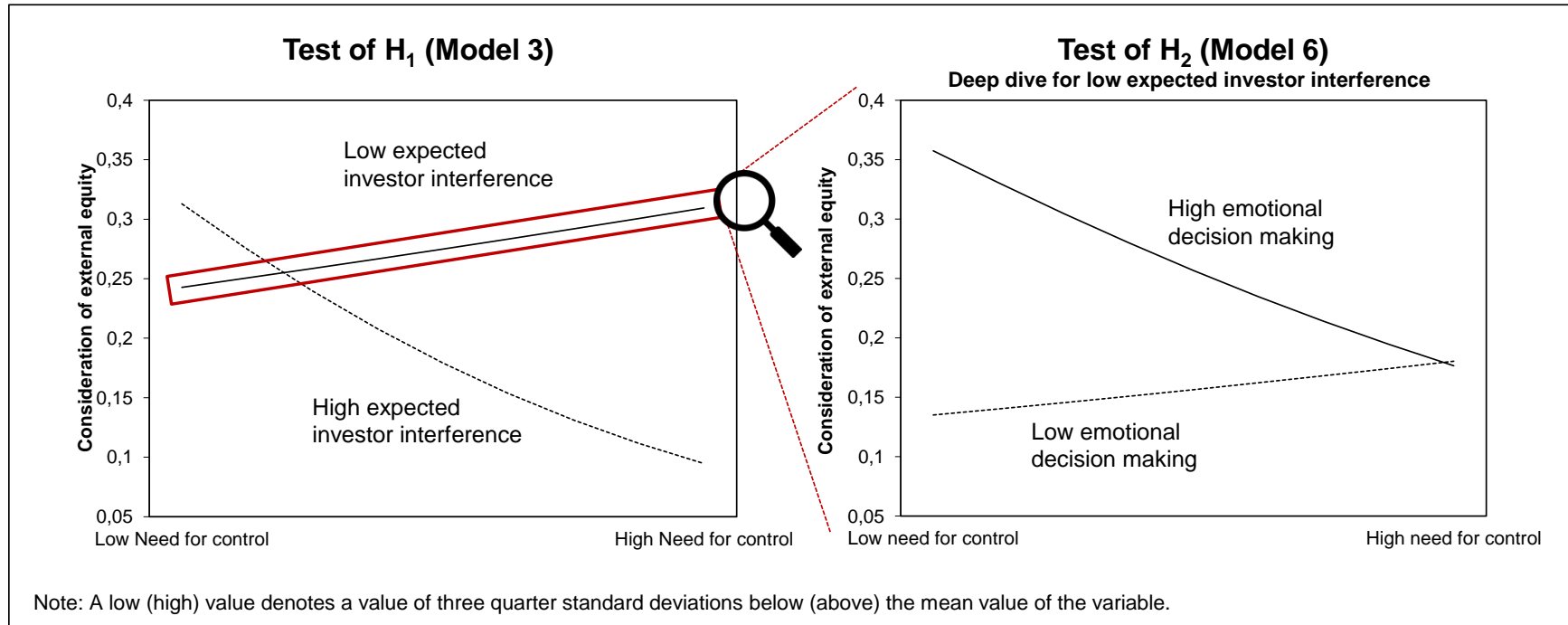
^{n.s.} not significant, $p > .10$, * $p < .10$, ** $p < .05$, *** $p < .01$ (two-tailed). VIF = variance inflation factor.

^a Variance inflation factors for Model 6. ^b Median split to include only family firms that have a revenue of up to US\$ 200 million (N = 76). ^c Median split to include only family firms that are owned by up to the third generation (N = 85).

Table 5
Implication of our Findings for Different Investor Types

	Institutional investors	Individual investors
Examples	<ul style="list-style-type: none"> • Private equity • Venture capital • Mutual funds • Insurance companies • Hedge funds 	<ul style="list-style-type: none"> • High-net worth individuals • Business angels • Corporate investors • Other family firms
Description	<p>Institutional investors provide finance for business ideas or potentially high growth unquoted companies in return for an equity stake (Landström 2007; Mason and Harrison 1999). Their objective is to obtain high returns, mostly over a period of 5 to 10 years, either by selling businesses on to other institutional investors or industry players (a competitor of the investee firm), or by exiting via an IPO (Dawson 2011).</p>	<p>Individual investors differ from institutional investors mainly by having multiple noneconomic motives, such as being involved in new ventures, having fun, and achieving the personal satisfaction of mentoring a new entrepreneur (Wetzel 1983). They might also have different dividend policy preferences (Graham and Kumar 2006).</p>
Typical Investment Volume	Very high (Dawson 2011)	Small to medium
Typical Involvement in Management	Very high (Dawson 2011)	Varies significantly (Villanueva and Sapienza 2009)
Implications of our Findings	We expect that a family firm's consideration of external equity to follow the dotted line of the left-hand plot in Figure 1.	We expect that a family firm's consideration of external equity to follow either the left-hand or the right-hand plot in Figure 1, depending on their attribution of the investor's motive and thus the investor's interference in management.

Figure 1
Interaction Plots



Appendix Measurements of Key Variables

Variables	Definition	Item	Scale	Mean	Median	Minimum	Maximum	Number of observations
Consideration of external equity	Choice of whether a family firm owner considers offering equity to outside investors in the near future	"In the future [short/medium term], would you consider offering equity in the business to pursue your strategy?"	Dummy variable ("yes," "no")	.33	0	0	1	125
Need for control	Degree to which maintaining control is need of a family firm owner	"Preservation of family control and independence are important goals	Four-point Likert scale ("strongly disagree" to "strongly agree")	3.34	3	2	4	124
Expected investor interference	Degree to which a family firm owner anticipates that external investors would get involved with management decisions	"They ^a will interfere a lot with management."	Four-point Likert scale ("strongly disagree" to "strongly agree")	2.83	3	1	4	125
Emotional decision making	Degree to which a family firm owner perceives that sentiments affect decision-making within the firm	"Emotions and sentiments often affect decision-making processes"	Four-point Likert scale ("strongly disagree" to "strongly agree")	2.44	2	1	4	125

^a Referring to external investors, such as high net worth individuals or other family businesses.